TheFibers
CREATIVE FIBERS

User Manual

WPM-16

Wavelength Power Meter for CWDM-Demux

INTRODUCE

TheFibers Wavelength Power Meter for CWDM-Demux (WPM-16) is designed to measure both wavelength and optical power of 16 wavelength optical signals in CWDM-Demux side. Because users don't need to use so expensive cwdm power meter to measure demux side. WPM-16 is Automatic Wavelength Detection type. By using this function of automatic wavelength detection, users can direct measure the wavelength and power of optical signal without setting up wavelength.

AVAILABLE APPLICATIONS

▪ CWDM Networks and Communications

▪ Applicable for demux side such as FTTx/PON, 3G/4G, LTE, etc.

▪ Fiber Optic Installation and Maintenance

STANDARD PACKAGE

a. Power Meter (included Battery)

b. AC Power Adaptor / Battery Charger

c. Leather Pouch

d. Necklace

e. Manual

f. Case

WARRANTY

WPM-16 you bought is passed our all inspection and then is shipped to the customers. TheFibers give you a warranty for one year from the buying date. During the warranty period, the returned product by freight prepaid from the customer, TheFibers will provide repair and replacement for any defective product without additional charge which is needed to repair or replacement.

However please careful that the following are expressly NOT COVERED under warranty:

▪ Any loss, damage by using un-approved Battery and AC Adaptor

▪ In case the serial or warranty sticker is removed

▪ Failure to use products under abnormal operating conditions

▪ Any loss, damage by user fault

▪ Any damage by disassembly without permission

KEY FEATURES

• Automatic Wavelength Detection type (don't need know wavelength before testing)

• Measure the wavelength and power of optical signal without setting up wavelength

• Test Shifted Wavelength for out of CWDM bandwidth

• Save Cost & Test Time (no need setting up wavelength)

• Compact size and Cheapest Price compare with present cwdm power meter

• Applicable for demux wavelength optical network such as FTTx/PON, 3G/4G, LTE, etc.

• Also Works as a typical Insertion Loss (I/L) meter

• A robust, shock-proof, splash-proof design for field operation

• Data Storage upto total 1600 measurements

HARDWARE SPECIFICATIONS

Parameter	WPM-16
Wavelength (nm) for CWDM-Demux[1]	1270/1290/1310/1330/1350/1410/1430/1450 1470/1490/1510/1530/1550/1570/1590/1610
Operation Mode	Wavelength Power Meter / Insertion Loss Meter
Measurement Range	-40dBm ~ 10dBm
Accuracy	+/-0.5dB @-20dBm
Resolution	0.01dB
Unit	dBm, dB, nm
Fiber type	Singlemode 9/125um
Optical Interface	SC/PC or SC/APC or FC/PC or FC/APC
Operation Mode	Power Meter / Insertion Loss Meter
Photodetector type	InGaAs
Display	LCD (with LED backlight)
Battery	3.7V Rechargeable Lithium Ion Battery
Battery Life	25 hours (continuous usage)
Battery Charging Time	4 hours
Data Storage	100/1600 measurements per wavelength
Operating Temperature	-10 ~ +50 ℃（Humidity 0 ~ 90%）
Dimension	138 (H) x 73 (W) x 30 (D) mm
Weight	205g

[1] CWDM-Demux : WPM-16 could be measured in demux side only. (just for individual wavelength only)

PRODUCT BUTTON OVERVIEW

Power	ON / OFF
Backlight	LCD backlight ON / OFF
Up	For up value and check saved data
Enter	Save button in SET Mode
Down	For down value and check saved data
Mode	Change mode between PM and IL Mode
Zero	For Decontrol mode, Zero Set, Data Deletion
Wavelength	Not used
Store	Save or Check button for measured data

OPERATION

1) PM (Power Meter) Mode

When the power of WPM-16 is on, tester's initial operating mode, PM (Power Meter) mode, is displayed on LCD screen. When you want to change to PMIL (Insertion Loss Meter) mode, push "MODE" button. If PM mode is selected, the measured optical power and wavelength will be displayed on the LCD screen automatically.

※ *Please make sure that the input optical signal should be just one signal. WPM-16 is not supposed to measure two or more wavelengths simultaneously.*

▪ Detecting the Wavelength

This WPM-16 has the function of automatic wavelength detection In CWDM-Demux side. Therefore users don't need to select Wavelength before testing.

▪ Offset

If the measured value is different from the actual optical power, it can be adjusted by using the "ZERO" button.

a. Connect the WPM-16 to the external Laser Source by using a reference optical cord.
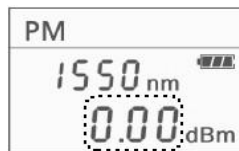
b. Turn on and set the output power of the laser source.

c. Convert the LCD Display to the Zero Set screen by pressing the "ZERO" button. At this time, the displayed measurement data will start flashing.

d. Adjust the displayed value to the output power set value of the Laser Source by using the "UP" or "DOWN" button.

e. After finishing adjustment, complete the Zero Set process by pressing the "ZERO" button.

▪ Factory Reset

The above Offset value set by the user can be initialized to the factory settings.

a. Press the "ZERO" button for over 2 seconds.

b. "rSET" is indicated as Factory Reset. After 1 second, it is initialized by factory settings and return to the measuring mode.

### 2) PMIL (Insertion Loss Meter) Mode

▪ Measuring method in PMIL mode

a. Select the PMIL mode by using "MODE" button.

b. Connect the cable or the DUT (Device Under Test) between the external Laser Source and WPM-16.

c. Turn on and set the output power of the laser source.

d. Carry out the "Zero Set" process as described in the section of "Zero Set" below.

e. Measure the insertion loss.

※ *Prior to IL test process, "Zero Set" should be preceded.*

▪ Zero Set

a. Connect the reference cord (master cord) between the external laser source and WPM-16.

b. Turn on and set the output power of the laser source.

c. After stabilization of laser, press "ZERO" button. And then the value with dots will start flashing.

d. Press "ZERO" button to finish the Zero Set. The values marked will be changed to "0.00dB".

※ *Zero set initialization to the factory settings (see the above Factory Reset)*
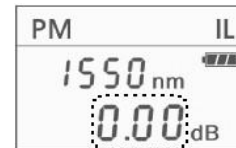
3) Data Store Procedure

▪ Data Store or Data Check

Data Store or Check is available in PM mode and PMIL mode both.

a. Press "STORE" button.

b. The measured value is marked with dots will start flashing.

c. Save the measured value by "ENTER" button.

d. By "UP/DOWN", you can check all the saved data.

e. Return to the measuring mode by press "STORE" button.

[digit information]

• Thousand-digit and Hundred-digit : Wavelength
  Example; 27XX [1270nm], 55XX [1550nm], 61XX [1610nm]

• Ten-digit and First-digit : Counting 00 to 99

▪ Data Deletion

a. Individual Deletion: Select data which you want to delete in Data Check mode by using "UP/DOWN" and push "ZERO".

b. Whole Deletion: In the Data Check mode, push "ZERO" for over 2 seconds.

4) Battery Indicator and Charge Lamp

Battery Indicator shows three stages. In case that battery is very low status, Indicator is flashing a one second interval.

Full   Low   Very Low
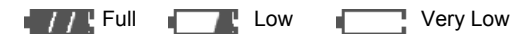
The color of Charge Lamp is red under charging and the color goes to green after full charging.